LAWRENCE LIVERMORE
REPORT

A weekly review of scientific and technological achievements from Lawrence Livermore National Laboratory, March 28-April 1, 2011

On angel's wings

Erik Stenehjem

The Laboratory has signed a memorandum of understanding with the Keiretsu Forum, a group of angel investors, to help with the commercialization of technology created at the Lab.

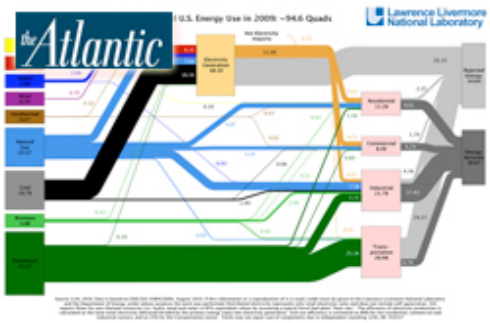
"The value proposition for us is the chance to showcase our technologies to the largest angel network in the world," said Erik Stenehjem, director of the Lab's Industrial Partnership Office. "It is understood by both parties that the technologies made available are all publicly available, consistent with fairness of opportunity provisions."

Many startup companies arise from technology developed by scientists at the Lab, and Randy Williams of Keiretsu Forum said encouraging early stage angel investment in such businesses will help them greatly. (An angel investor is a private investor who invests in the funding of start-up companies.)

The memorandum calls for the Lab and angel group to set up a way for potential investors to review technology being spun out by the Lab.

To read more, go to the Web.

No easy feat



U.S. energy flow charts

When it comes to talking about energy and climate, it's a slippery path, according to the Laboratory's Carbon Management Program Leader Julio Friedmann.

Friedmann recently contributed an article to *The Atlantic* that explains just how difficult it is to discuss the need for alternative energy systems to help curb climate change.

"Communicating even the simple bits in climate and energy is tricky, in part because America has created the energy system it wanted -- cheap, unintrusive and all but invisible," Friedmann says. "…In my experience, many folks when asked know neither how much power they use each month nor what their electricity bill is. In part, this is because the value of electricity and gasoline is much, much higher to most people than the cost."

To read more, go to the Web.

Getting better every day

Lawrence Livermore National Laboratory chemist Carlos Valdez is developing new catalysts for extracting carbon dioxide from power-plant exhaust.

Over the past few years, it was difficult for a chemist to find a job nearly anywhere in the state.

But the job market appears to be turning a corner for chemists and the job prospects are getting better every day. Though the job market for chemists was anywhere from flat to declining last year, it seems to be picking up this year.

And one place where that is happening is the Laboratory, which has hired 23 chemists into the Chemical Sciences Division since January 2010. And it needs 15 more right now in that division alone, according to Glenn Fox who heads that division.

"Although the Lab started out as a nuclear weapons lab back in 1952," Fox said "over the last few years, our programs in energy and national security have grown enormously."

To read more, go to the Web.

Where have all the Joshua Trees gone?

Visitors to Joshua Tree National Park may be asking that very question in 60 to 90 years.

Temperature increases resulting from climate change in the Southwest will likely eliminate Joshua trees from 90 percent of their current range in 60 to 90 years, according to a new study by the U.S. Geological Survey and the Laboratory

The Joshua tree, a giant North American yucca, occupies desert grasslands and shrublands of the Mojave Desert of California, Nevada, Arizona and Utah; Joshua Tree National Park in California is named after this iconic species. The Joshua tree is known for its distinctive shape and height of up to 50 feet.

The research team used models of future climate, an analysis of the climatic tolerances of the species in its current range, and the fossil record to project the future distribution of Joshua trees. The study concludes that the species could be restricted to the northernmost portion of its current range as early as the end of this century. Additionally, the ability of Joshua trees to migrate via seed dispersal to more suitable climates may be severely limited.

The study incorporated not only state-of-the-art climate models and modern ecology, but also documentary information found in fossils that are more than 20,000 years old.

To read more, go to the Web.

America's next top energy innovator

With more than 15,000 patents spread out over the 17 national laboratories in the United States - - including Lawrence Livermore -- it hasn't always been easy for industry to license these technologies.

It costs tens of thousands of dollars for private companies to license the technologies and countless hours spent on paperwork, and as a result, only 10 percent of all federal patents have been licensed for commercialization.

The Department of Energy is doing something about. America's Next Top Energy Innovator is an initiative launched this week as part of the recently announced Startup America campaign. The program will allow startups to save on cash and paperwork when applying for government patents.

Beginning May 2, startups can use a DOE-provided template for their business plan, and if approved, they need only pay $1,000 to score licensing for a patent (normal costs range between $10,000 to $50,000) and negotiate other details (i.e. equity and royalties) on a case-by-case basis with the DOE.

To read more, go to the Web.
